ASIA GAS HUB

# AGH Bulletin

## No. 21/2023
## Published on 27 October 2023

## WORLD NEWS

**China's CNOOC, French Energy Firm Engie Complete Settled LNG Trade**

1. Chinese national oil company CNOOC and French energy company Engie have completed a yuan-settled liquefied natural gas (LNG) trade through the Shanghai Petroleum and Natural Gas Exchange.
2. The transaction was done on the international LNG trading platform, with a cargo of about 65,000 metric tons of LNG will be delivered in November.
3. CNOOC had previously conducted China's first yuan-settled trade with French major TotalEnergies earlier in March, as well as with Singapore's Pavilion Energy in August for about 65,000 tons of the super-chilled gas.
4. In April, PetroChina also conducted a yuan-settled LNG trade with ADNOC Trading.

Octo

**AGH Commentary**

China has in recent years placed an emphasis on settling oil and gas trades in Yuan in a bid to establish its currency internationally and to weaken the dollar's grip on world trade.

**QatarEnergy, Shell Agree 27-Year LNG Supply**

1. QatarEnergy has reached a supply deal with Shell to supply 3.5 mtpa (LNG) a year for 27 years with the signing of two LNG sale & purchase agreements.
2. The volume will be delivered in 2026 by QatarEnergy's affiliate, Qatar LNG from the massive North Field LNG production expansion project to Gate LNG terminal at the Port of Rotterdam in the Netherlands and the volumes will be sourced from the two joint ventures that hold interests in Qatar's North Field East (NFE) and North Field South (NFS) expansion projects where Shell holds a 6.25% stake and 9.375% share, respectively.
3. The deal follows an identical one between QatarEnergy and TotalEnergies last week, until then Qatar's biggest and longest gas supply deal with Europe.
4. The Asian deals include a 27-year supply agreement with China's Sinopec sealed in November last year for 4 million metric tons a year and an identical one signed in June with China National Petroleum Corporation (CNPC).
5. These agreements reaffirm Qatar's commitment to help meet Europe's energy demands and bolstering its energy security with a source known for its superior economic and environmental qualities,"said QatarEnergy chief Saad al-Kaabi.

Source: Reuters, 18 October 2023

**AGH Commentary**

Qatar has successfully expanded its second portfolio to Europe with this supply agreement after the same arrangement was signed with TotalEnergies recently.

## WORLD NEWS (cont'd)

**TotalEnergies says Qatar LNG Flows could be diverted from Europe**

1. TotalEnergies has confirmed that LNG deliveries covered by a 27-year deal it signed with Qatar this month could be diverted to non-European countries if needed.
2. The deal, and similar long-term LNG agreements signed by other European energy majors with Qatar, has raised concerns about how to achieve European Union goals to reach net zero emissions by 2050.
3. The deal covers two sales and purchase supply agreements for delivering 3.5 mtpa of LNG to the Fos Cavaou in southern France which deliveries due to start from 2026 and continue until 2053.
4. Early this week, Shell has also signed the identical 27-year deal a week after TotalEnergies' agreement which deliveries will go to Netherlands.
5. Both are Qatar's biggest and longest gas supply deals with Europe, as the region seeks to compensate for Russian supply loss after the EU imposed energy import restrictions

**AGH Commentary**
Should it happen, flexibility of cargo diversion through long term contract has been permissible by QatarEnergy.

**Indonesia's Freeport To Build USD1 Billion Gas-Fired Power Plant To Move Away From Coal**

1. The investment by gold and copper mining giant PT Freeport Indonesia (PTFI) is to be used for the construction of a 265-megawatt gas-fired combined cycle gas turbine power plant, which is slated to replace the coal units that were developed to power the Grasberg mine in Papua over 25 years ago and targeted to begin operations in 2027.
2. The incremental economic cost of the project, which is expected to significantly reduce PTFI's greenhouse gas emissions (GHG) is roughly USD400 million and together with other initiatives PTFI as undertaken, the total reduction would be 60% from the 2018 baseline.
3. Indonesia government owns around 51.2% of PTFI and Freeport McRowan owns the remaining 48.8%

**AGH Commentary**
Indonesia government is accelerating its zero-emission campaign by indirectly participating in huge investment coal to gas power plant conversion in the country.

## HOME

**PETRONAS Gas Sees Higher Utilization Rate For Melaka Regasification Terminal**

1. PETRONAS Gas Berhad (PGB) has projected a higher utilization rate for its offshore LNG from the regasification terminal in Sungai Udang (RGTSU), Melaka from 2026 onwards on higher demand by utility providers as they switch to gas from coal to power generation, mainly from central and northern regions based on the power sector demand projection.
2. Currently, the utilization rate at RGTSU averages between 10-15%, and is expected to increase to between 65-70% from 2026 onwards.
3. Meanwhile, demands at the LNG regasification terminal in Pengerang, Johor (RGTP) is expected to reduce as it would be covered by the Kerteh gas facility through the de-bottlenecking initiative.
4. PGB has an overall pipeline length of 2,623 km to transport sales gas to shippers' end customers across the Peninsular Gas Utilization (PGU) pipeline network and there are four entry point into the PGU networks – Kerteh, Pengerang, Sungai Udang and Thailand.

Edg

**AGH Commentary**

In line with the national policies on net zero carbon emissions by 2050, there will be more coal to gas power plant switching and no more new coal plants be built. The inevitable increase of domestic gas demand will lead to an increase in gas import and import terminal utilization.

**City Energy & Gentari To Study Feasibility Of Building Hydrogen Pipeline From Malaysia To Singapore**

1. This follows a Memorandum of Understanding (MoU) signed in April 2023 between City Energy, Singapore's sole producer and provider of piped town gas and wholly owned subsidiary of Keppel Infrastructure Trust, and Gentari, a Malaysian clean energy solutions provider wholly owned by Petronas.
2. The study will be conducted over period of 12 months and the conclusion of the study, both parties will collectively determine the way forward in relation to the execution of a Front-End Engineering Design (FEED) agreement.
3. Hydrogen is key to Singapore's ambition to achieve net zero emissions by 2050. To that end, the government has in October 2022 unveiled its National Hydrogen Strategy as a key decarbonization pathway.
4. Since 1991, Singapore has been importing natural gas from Malaysia through 2,623 km-long PGU pipeline operated by Petronas Gas Berhad.

**AGH Commentary**

This collaboration is a strategic step for Gentari towards accelerating the adoption of clean hydrogen as a viable energy source for customers in Asia Pacific and beyond.

## HOME (cont'd)

**Gentari Now Has Over 200 EV Charge Points Across Malaysia, Adds 24kW DC Charger At PETRONAS Genting Sempah, priced at RM0.50 per minute**

1. Gentari has achieved a new milestone as it has deployed over 200 EV charge points across Malaysia, with the aims to have 400 charge points by the end of 2023 to support the government's target of having 10,000 charge points nationwide by 2025.
2. Apart from Genting Sempah, three other AC charging sites in Kuala Lumpur namely Menara Naza which consists of 3x 7kW AC Chargers priced at RM0.10 per minute (RM6/hour) and 1x 22kW AC charger priced at RM0.20 per minute (RM12/hour), Lotus's Ampang in Pandan consists of two 11kW AC charger points priced at RM0.10 per minute (RM6/hour) and Perdana Hotel gets three 11kW AC charge points which are also priced at RM0.10 per minute (RM6/hour)
3. Last week, Gentari and PLUS announced Malaysia's first modular EV charging station that's assisted by solar and battery energy storage systems (BESS) which located at Behrang Layby (Northbound) on the North –South Highway comes with a 300kWh BESS which can be trickle-charged by solar and from the grid.

**AGH Commentary**
This is a significant step forward in Gentari's efforts to boost the growth of the EV ecosystem in Malaysia contributing to the nation's energy sustainability agenda.

# GLOBAL HIGHLIGHTS – LNG & Natural Gas Snapshots as of 27 October 2023

ASIA GAS HUB

## ASIA PACIFIC/INDIA

1. Asian spot liquefied natural gas (LNG) prices is hovering at USD17.60-USD17.90 MMBtu this week for front Month December deliveries, supported by increased demand from northeast Asian buyers and amid tensions in the Middle East, industry sources estimated.
2. This is the highest level of spot LNG price since early February this year.
3. Sources in the industry said Japanese LNG stocks held by power utilities are ramping up, with the help of above-normal temperatures in the past few weeks.
4. While in China, LNG imports jumped as the Golden Week holiday concluded and some additional restocking is expected to take place ahead of the heating season.

**AGH Commentary**

LNG buyers are very concerned about the supply issues from Middle East since the region is a major producer of natural gas

Source: Industry, 27 October 2023

## EUROPE

1. Gas supplies to Europe remain higher than average despite the closure of gas import from Israeli occupation through Egypt.
2. Europe's benchmark Dutch TTF was traded at Euro51.095MW/h or USD16.18/Mmbtu or RM77.34/MMBtu for front month of November, while December has significant increased to Euro53.25MW/h or USD18.25/MMBu or RM80.35/MMBtu
3. European gas storage tanks filled up to 85%-90%, indicating that the European Union is prepared to face early cold temperatures before the arrival of winter.

**ommentary**.

Europe seems to have the capacity to sustain itself for an extended period even with supply disruption from Middle East.

Source: Industries, 27 October 2023

**Freight Charges Selected Regions as of 27 October 2023 (RM/MMBtu)**

| Export Regions | Japan/Korea | Taiwan/China | Malacca |
|---|---|---|---|
| Bintulu | 3.82 | 3.58 | 1.91 |
| Singapore | 4.30 | 3.35 | 0.96 |
| M'cca | 4.30 | 3.82 | - |

Charter Hire Rate as of 27 October 2023; USD50,000-55,000/Day

Source : Industry, 2023

# GLOBAL HIGHLIGHTS – LNG & Natural Gas Outlook as of 27 October 2023

ASIA GAS HUB

## Global Gas Future Index

| Month | JKM Platts Future | | TTF Natural Gas Future | | CME HH Future | |
|---|---|---|---|---|---|---|
| | USD/ MMBtu | RM/ MMBtu | USD/ MMBtu | RM/ MMBtu | USD/ MMBtu | RM/ MMBtu |
| Nov | 0.00 | 0.00 | ▼ 16.18 | 77.34 | ▼ 3.21 | 15.36 |
| Dec | ▼ 17.64 | 84.31 | ▼ 16.96 | 81.07 | ▼ 3.48 | 16.62 |
| Jan 24 | ▼ 17.95 | 85.80 | ▼ 17.44 | 83.37 | ▼ 3.71 | 17.72 |
| Feb 24 | ▼ 18.10 | 86.53 | ▼ 17.58 | 84.03 | ▼ 3.63 | 17.37 |
| Mar 24 | ▼ 17.28 | 82.59 | ▼ 17.41 | 83.20 | ▼ 3.35 | 16.00 |
| Apr 24 | ▼ 16.81 | 80.32 | ▼ 16.90 | 80.77 | ▼ 3.13 | 14.98 |
| May 24 | ▼ 16.61 | 79.39 | ▼ 16.73 | 79.98 | ▼ 3.15 | 15.06 |
| June 24 | ▼ 16.59 | 79.30 | ▼ 16.72 | 79.90 | ▼ 3.26 | 15.56 |
| July 24 | ▼16.847 | 80.53 | ▼ 16.74 | 80.00 | ▼ 3.37 | 16.10 |
| Aug 24 | ▼17.143 | 81.94 | ▼ 16.76 | 80.10 | ▼ 3.40 | 16.25 |
| Sept 24 | 17.214 | 82.28 | 16.85 | 80.56 | 3.38 | 16.15 |
| Oct 24 | 17.578 | 84.02 | 0.00 | 0.00 | 0.00 | 0.00 |

Sources: ICE Energy Report , CME Group Market Data

## Global Crude Future Benchmark Snapshots in RM per MMBtu

| Month | Brent (ICE) | WTI (NYMEX) | JCC (ICE) |
|---|---|---|---|
| Oct23 | ▲ 77.68 | 0.00 | ▼ 73.29 |
| Nov23 | ▲ 75.33 | 0.00 | ▼ 72.86 |
| Dec23 | ▲ 74.18 | ▲ 71.67 | ▼ 72.43 |
| Jan24 | ▲ 73.52 | ▲ 71.10 | ▼ 72.01 |
| Feb24 | ▲ 73.04 | ▲ 70.43 | ▼ 71.65 |
| Mar24 | ▲ 72.59 | ▲ 69.87 | ▼ 71.32 |
| Apr 24 | ▲ 72.16 | ▲ 69.08 | ▼ 71.01 |
| May 24 | ▲ 71.77 | ▲ 68.89 | ▼ 70.74 |
| June 24 | ▲ 71.39 | ▲ 68.44 | ▼ 70.49 |
| Jul 24 | ▲ 71.02 | ▲ 67.53 | ▼ 70.27 |
| Aug 24 | ▲ 70.67 | ▲ 67.36 | ▼ 70.07 |
| Sep 24 | ▲ 70.32 | ▲ 66.75 | 69.87 |

Sources: CME Group Market Data, ICE Energy Report

# GLOBAL HIGHLIGHTS – LNG & Natural Gas Outlook as of 27 October 2023 (cont'd)

ASIA GAS HUB

## Regional Coal Future Index

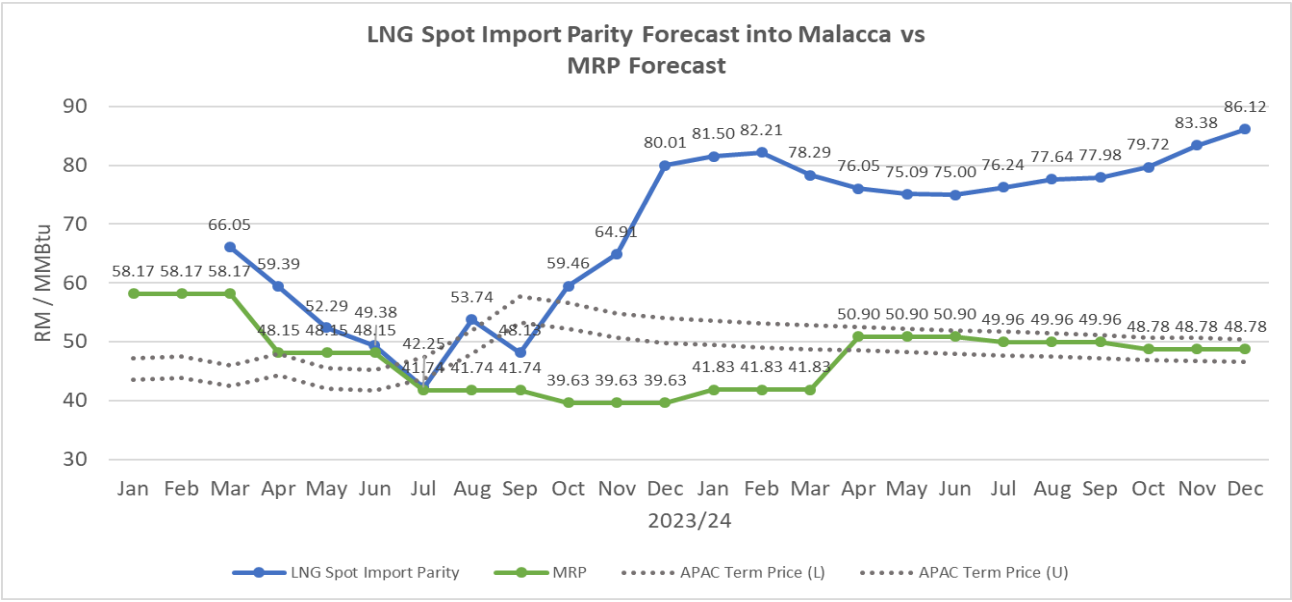
| Month | ICE Newcastle Coal Index | |
|---|---|---|
| | USD/ MMBtu | RM/ MMBtu |
| Oct 23 | ▼ 4.89 | 23.37 |
| Nov 23 | ▼ 4.86 | 23.22 |
| Dec 23 | ▼ 4.96 | 23.71 |
| Jan 24 | ▼ 5.09 | 24.33 |
| Feb 24 | ▼ 5.23 | 25.00 |
| Mar 24 | ▼ 5.24 | 25.04 |
| Apr 24 | ▼ 5.26 | 25.14 |
| May 24 | ▼ 5.22 | 24.96 |
| June 24 | ▼ 5.22 | 24.96 |
| July 24 | ▼ 5.31 | 25.40 |
| Aug 24 | ▼ 5.38 | 25.73 |

Sources: ICI, www.cmegroup.com; ICE Newcastle Coal index, www.barchart.com

## Liquid Petroleum Gas (LPG) Future Index (Saudi Aramco)

| Month | Argus Propane Future Index | | Mini Argus Butane Future Index | |
|---|---|---|---|---|
| | USD/ MMBtu | RM/ MMBtu | USD/ MMBtu | RM/ MMBtu |
| Nov 23 | ▲ 9.04 | 43.29 | 8.60 | 40.70 |
| Dec 23 | ▲ 9.01 | 43.07 | 8.77 | 41.48 |
| Jan 24 | ▲ 8.98 | 42.91 | 8.86 | 41.93 |
| Feb 24 | ▲ 8.84 | 42.28 | 8.80 | 41.64 |
| Mar 24 | ▲ 8.48 | 40.52 | 8.49 | 40.18 |
| Apr 24 | ▲ 8.06 | 38.54 | 8.15 | 38.54 |
| May 24 | ▲ 7.72 | 36.92 | 7.86 | 37.18 |
| June 24 | ▲ 7.56 | 36.15 | 7.62 | 36.07 |
| July 24 | ▲ 7.47 | 35.70 | 7.59 | 35.90 |
| Aug 24 | ▲ 7.51 | 35.88 | 7.66 | 36.23 |
| Sept 24 | ▲ 7.60 | 36.31 | N/A | N/A |

# LOCAL HIGHLIGHTS – Domestic Forecast for MRP & LNG Import Parity as of 27 October 2023




Source: AGH Market Analysis

| Month | Import Parity - MRP Spread | Change | APAC Term Ave - MRP Spread | Change |
|---|---|---|---|---|
| Sep-23 | 6.39 | 0.50 | 13.80 | 0.00 |
| Oct-23 | 19.83 | 0.61 | 14.75 | 1.81 |
| Nov-23 | 25.28 | 0.67 | 13.11 | 1.83 |
| Dec-23 | 40.39 | -0.31 | 12.30 | 1.85 |
| Jan-24 | 39.66 | -0.48 | 9.63 | 1.86 |
| Feb-24 | 40.38 | -0.81 | 9.29 | 1.93 |
| Mar-24 | 36.46 | -0.56 | 8.98 | 1.94 |
| Apr-24 | 25.14 | 0.46 | -0.40 | 2.07 |
| May-24 | 24.19 | -1.25 | -0.67 | 2.04 |
| Jun-24 | 24.09 | -1.63 | -0.93 | 2.00 |
| Jul-24 | 26.28 | -1.80 | -0.24 | 3.54 |
| Aug-24 | 27.68 | 1.28 | -0.50 | 3.50 |
| Sep-24 | 28.02 | 0.99 | -0.73 | 3.47 |
| Oct-24 | 30.93 | -0.87 | 0.02 | 2.96 |
| Nov-24 | 34.60 | 2.28 | -0.05 | 3.08 |
| Dec-24 | 37.34 | 2.31 | -0.30 | 2.77 |

Source: AGH Market Analysis

**AGH Commentary**

The spread between import parity and MRP has widened, but for the LNG purchase price on term at 12% - 12.5% of Brent, it is the right move to bring in the cargo on April 2024 onwards.

MRP = Malaysia Reference Price used for domestic market

# LOCAL HIGHLIGHTS – Peninsular Gas Utilities (PGU) Gas Volume Updates as of 27 October 2023

ASIA GAS HUB

There is no change in available capacity from last week.

| Northern Region | | | |
|---|---|---|---|
| State | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity | |
| | | MMscf/d | MMBtu/d |
| Perlis | Tambun Tulang CG | 10.97 | 11375.89 |
| | Ayer Puteh CG | 30.92 | 32064.04 |
| | TTPC MS | 55.86 | 57926.82 |
| Kedah | Pondok Labu CG | 19.21 | 19920.77 |
| | Kulim Hi Tech CG | 75.18 | 77961.66 |
| | Sungai Petani CG | 20.44 | 21196.28 |
| | Pokok Sena CG | 20.86 | 21631.82 |
| | PFK MS | 16.25 | 16851.25 |
| | NUR MS | 200.97 | 208405.89 |
| Penang | Prai CG | 24.97 | 25893.89 |
| | TNB Prai MS | 98.28 | 101916.36 |
| | TNB Gelugor MS | 23.35 | 24213.95 |
| | Prai Power MS | 110.22 | 114298.14 |


| Eastern Region | | | |
|---|---|---|---|
| State | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity | |
| | | MMscf/d | MMBtu/d |
| T'gganu | Kerteh CG | 0.89 | 922.93 |
| | Teluk Kalong CG | 8.68 | 9001.16 |
| | Kerteh 3 CG | 96.3 | 99863.1 |
| | Kerteh 2 CG | 3.79 | 3930.23 |
| | TNB Paka MS | 208 | 215696 |
| | YTL Paka MS | 139.16 | 144308.92 |
| | CUF Kerteh MS | 105.52 | 109424.24 |
| Pahang | CUF Gebeng MS | 125.84 | 130496.08 |
| | Gambang CG | 0.49 | 508.13 |
| | Gebeng CG | 29.51 | 30601.87 |
| | Gebeng 2 CG | 68.6 | 71138.2 |
| | PCEMSB MS | 8.46 | 8773.02 |
| | PCASB MS | 7 | 7259 |
| | Aromatic KR2 MS | 3.3 | 3422.1 |
| | PCOGD MS | 50.51 | 52378.87 |
| | PERWAJA MS | 50.88 | 52762.56 |
| | MTBE NG MS | 11.6 | 12029.2 |
| | PDH MS | 8.4 | 8710.8 |
| | BASF Fuel | 8.29 | 8596.73 |
| | BASF Feedstock | 2.1 | 2177.7 |
| | Idemitsu MS | 9.83 | 10193.71 |
| | Titan MS | 37.78 | 39177.86 |
| | Genting Sayen MS | 47.95 | 49724.15 |

Source: PETRONAS Gas Berhad

## IBR Base Average Tariff of GMD Natural Gas Distribution System

| Year | 2023 | 2024 | 2025 |
|---|---|---|---|
| Rebate RM/GJ/Day | 0.038 | N/A | N/A |
| RM/GJ/Day | 1.535 | 1,573 | 1.573 |

IBR : Incentives Based Regulation
GMD : Gas Malaysia Distribution (owner & operator of gas distribution line)
GJ : Gigajoules
RM : Ringgit Malaysia

# LOCAL HIGHLIGHTS – Peninsular Gas Utilities (PGU) Gas Volume Updates as of 27 October 2023 (cont'd)

ASIA GAS HUB

There is no change in available capacity from last week

## Central Region

| State | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity | |
|---|---|---|---|
| | | MMscf/d | MMBtu/d |
| Klang Valley | KLIA CG | 0.06 | 62.22 |
| | Dengkil CG | 71.6666 | 74318.2642 |
| | Puchong CG | 14.64 | 15181.68 |
| | Batu Tiga CG | 37.76 | 39157.12 |
| | GB3 MS | 93.48 | 96938.76 |
| | Connaught Bridge MS | 186.77 | 193680.49 |
| | GDC KLIA MS | 1.9 | 1970.3 |
| | PNGV KLIA 1 | 0.47 | 487.39 |
| | PNGV KLIA 2 | 0.7 | 725.9 |
| | PNGV KLIA 3 | 0.41 | 425.17 |
| | Venator MS | 7.6 | 7881.2 |
| S'gor | Serdang CG | 76.4 | 79226.8 |
| | Shah Alam CG | 80.37 | 83343.69 |
| | Kapar CG | 9.07 | 9405.59 |
| | Meru CG | 95.42 | 98950.54 |
| | Bestari Jaya CG | 8.74 | 9063.38 |
| | Kuala Langat Power Plant MS | 50.35 | 52212.95 |
| | Serdang MS | 174.67 | 181132.79 |
| | Kapar MS | 268.04 | 277957.48 |
| N.Sembilan | Seremban CG | 15.91 | 16498.67 |
| | Seremban 2 CG | 10.29 | 10670.73 |
| | Bandar Baru Nilai CG | 10.66 | 11054.42 |
| | Tebong CG | 25.23 | 26163.51 |
| | Port Dickson MS | 230 | 238510 |

## Western Region

| State | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity | |
|---|---|---|---|
| | | MMscf/d | MMBtu/d |
| Perak | Kamunting CG | 20.96 | 21735.52 |
| | Parit Buntar CG | 18.47 | 19153.39 |
| | Ayer Tawar CG | 16.19 | 16789.03 |
| | Hutan Melintang CG | 47.86 | 49630.82 |
| | Merbau CG | 78.5 | 81404.5 |
| | Tronoh CG | 4 | 4148 |
| | SEV Lumut MS | 180.42 | 187095.54 |

Source: PETRONAS Gas Berhad

## Southern Region

| State | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity | |
|---|---|---|---|
| | | MMscf/d | MMBtu/d |
| Johor | Kluang CG | 39.24 | 40691.88 |
| | Kulai CG | 18.2 | 18873.4 |
| | Senai CG | 114.96 | 119213.52 |
| | Pasir Gudang CG | 237 | 245769 |
| | Plentong CG | 74.2 | 76945.4 |
| | Tg Langsat CG | 17.66 | 18313.42 |
| | Paya Rumput CG | 14.11 | 14632.07 |
| | TNB Pasir Gudang MS | 279.57 | 289914.09 |
| | Pengerang COGEN Power MS | 111.61 | 115739.57 |
| | Southern Power Generation MS | 20 | 20740 |
| | Plentong (Senoko) MS | 145 | 150365 |
| | Plentong 2 (Keppel) MS | 118 | 122366 |
| M'cca | Alor Gajah CG | 9.25 | 9592.25 |
| | Tanjung Kling MS | 50.01 | 51860.37 |
| | Tanjung Gemok MS | 38.93 | 40370.41 |
| | Teluk Gong MS | 111 | 115107 |
| | Panglima MS | 25.31 | 26246.47 |
| | EDRA Energy Sdn Bhd | 210.21 | 217987.77 |
| | Tangga Batu Refinery MS | 32.66 | 33868.42 |
| | Tangga Baru Cogen MS | 12.34 | 12796.58 |

### IBR Tariff for Peninsular Gas Utilization

| Year | 2023 | 2024 | 2025 |
|---|---|---|---|
| RM/GJ/Day | 1.061 | 1.063 | 1.063 |

### IBR Tariff for Regassification Facilities

| Facilities | RGTSU | RGTP |
|---|---|---|
| RM/GJ/Day | 3.455 | 3.165 |

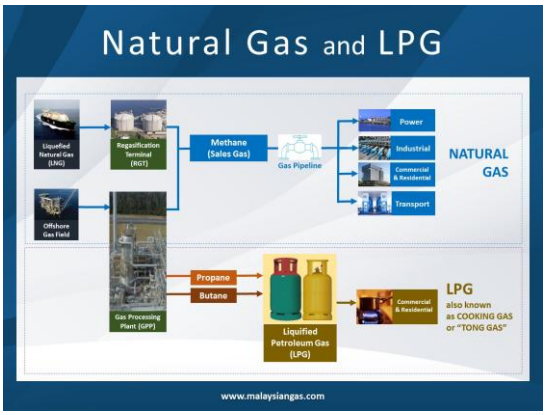
IBR : Incentives Based Regulation
GJ : Gigajoules
RM : Ringgit Malaysia
RGTSU : Regas Terminal Sungai Udang, Malacca
RGTP : Regas Terminal Pengerang

# FUN FACTS

ASIA GAS HUB

## 1 What is the difference between natural gas and cooking gas (LPG)?

1. LPG has a higher calorific value or energy content, so less gas is required to produce the same amount of heat.
2. Oxygen-to-gas ratio required for proper combustion - LPG requires an oxygen-to-gas ratio of approximately 25 to 1. Natural gas requires a ratio of around 10 to 1.
3. LPG is propane and butane while natural gas is methane
4. LPG is heavier than air while natural gas is lighter than air
5. LPG is liquefied through pressurisation, Natural gas is cryogenically turned into liquefied natural gas – LNG
6. LPG is distributed in gas bottles, cylinders, and tanks, Natural gas is conveyed via pipeline
7. LPG appliances operate at 2.75 kPa, Natural gas appliances operate at 1.1 kPa




Sources: ELGAS, Malaysian Gas Association (MGA)

## 2 ChatGPT Let's ask...

**The Rubber Industries Is The Largest Non-Power Sector In Malaysia That Use Natural Gas For Production. Why Gas Is The Main Consumption For The Industry?**

The rubber industry in Malaysia prefers to use natural gas for several reasons:

- **Energy Efficiency**: Natural gas is a highly energy-efficient fuel source. It provides a clean and consistent source of heat, which is important in various rubber processing applications, such as vulcanization and curing. This efficiency can lead to reduced energy consumption and cost savings.
- **Clean Combustion**: Natural gas produces fewer emissions compared to other fossil fuels, such as coal or oil. This is crucial for the rubber industry, which often involves the curing of rubber compounds at high temperatures. Clean combustion reduces the environmental impact and ensures compliance with environmental regulations.
- **Consistency and Control**: Natural gas combustion provides better control over temperature and heating processes. In the rubber industry, precise temperature control is essential for producing high-quality rubber products. Natural gas allows for consistent and uniform heating, resulting in better product quality.
- **Cost-Effective**: Natural gas is often competitively priced in Malaysia, making it a cost-effective choice for the rubber industry. Its availability and pricing stability can be advantageous for businesses in this sector.
- **Reliability**: Natural gas supply in Malaysia is relatively reliable, with a well-developed infrastructure. This ensures that rubber manufacturing processes can continue without significant interruptions due to fuel supply issues.
- **Lower Maintenance**: Natural gas equipment typically requires less maintenance compared to other fuel sources, such as coal-fired boilers. This can reduce downtime and operational costs for rubber manufacturers.
- **Environmental Regulations**: The rubber industry, like many other industries, faces increasing scrutiny and regulations related to environmental impacts. Using natural gas aligns with sustainability and emission reduction goals, which can be important for maintaining a positive public image and complying with government regulations.
- **Compatibility with Technology**: Many rubber processing equipment and technologies are designed to work efficiently with natural gas as the fuel source. This makes it a practical choice for the industry.

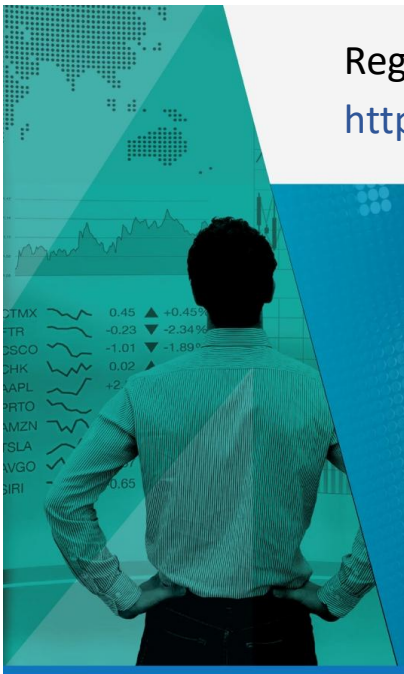
Source: Chat GPT

# ATTENTION! Gas-X is open for Registration

ASIA GAS HUB

Register your interest at:
https://asiagashub.com/gasx/

GasX



# LET'S TRADE GAS IN MALAYSIA

**An Over-the-Counter (OTC) marketplace to facilitate bids and offers of natural gas trading in Malaysia**

SHIPPER | BROKER | TRADER | DOMESTIC END CONSUMERS

## Functions & Features

- Generate report
- Audit trails report
- Email notifications
- Spot & forward trading
- Standard terms negotiable
- Bid and Ask – post/respond
- Create transaction message
- Automation of documentation
- Authorized counterparties control
- Online digital term and conditions
- Subscription-based secure platform
- Anonymous bid and ask transactions
- Access to real-time prices and deals online
- Tradepoint at PGU transmission and GMD distribution pipeline

## Why choose GasX?

- Enable spot trading
- Increase gas liquidity
- Enables data analysis
- Better pipeline utilization
- Transparency through data provision
- Catalyse a natural gas trading community
- Streamlined transactions, saving time and money
- Proven trading platform based on impressive track record
- Expand users reach to meet specific bespoke gas transactions
- 24/7 support and helpdesk on GasX operations and assistance
- Efficient price discovery and transparency for market participants

**Register for Interest**

For more information: **info@asiagashub.com**

www.asiagashub.com

ASIA GAS HUB

ASIA GAS HUB

# BUILDING THE GAS MARKET FOR TOMORROW

www.asiagashub.com

@AsiaGasHub